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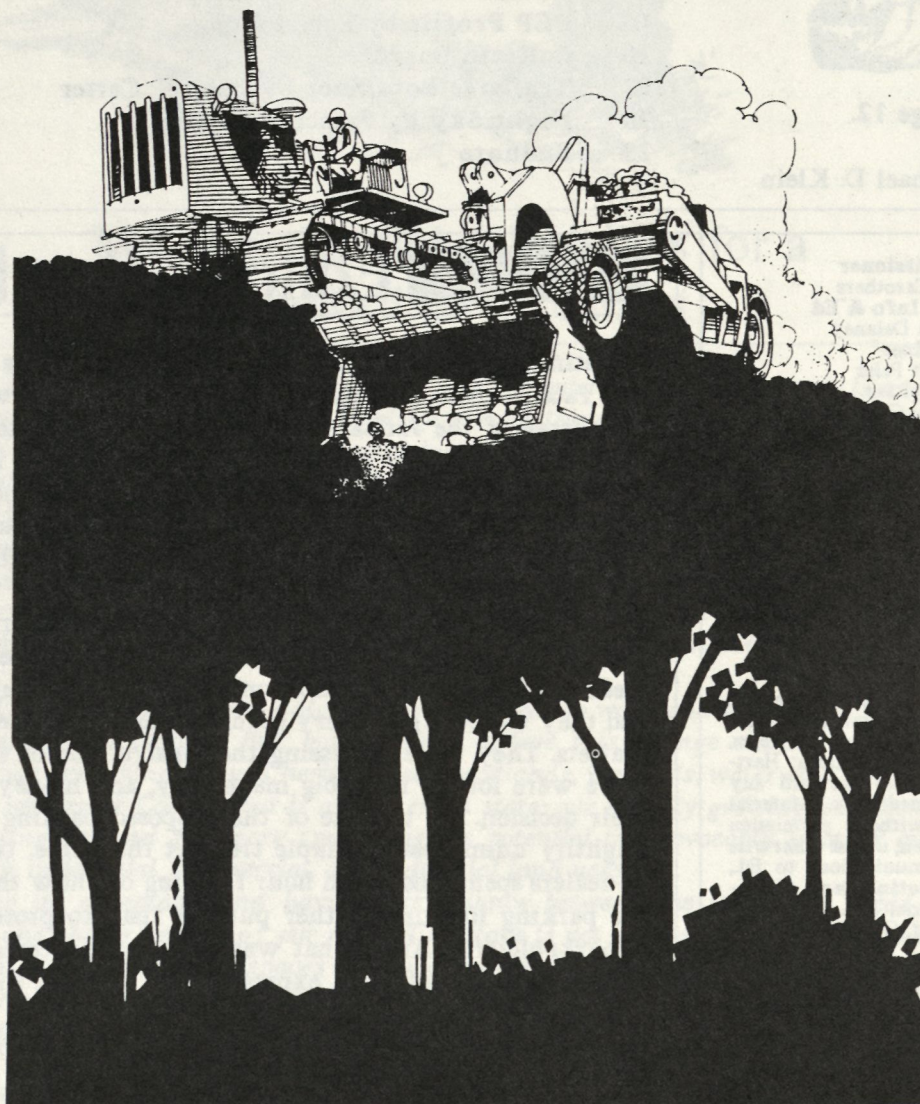


# Citizens' Bulletin

Volume 15 Number 5 January 1988 \$5/yr.

The Connecticut Department of Environmental Protection

## Development and the Environment



Can they go together?

# Citizens' Bulletin

January 1988  
Volume 15 Number 5  
\$5/year



Page 3.



Page 12.

Cover by Michael D. Klein

## Features

- 3 **The Environmental Review Team** by Margaret A. Carter  
*A team of experts works to harmonize protection of the environment with the realities of modern development.*
- 10 **Management Plans for Connecticut's Harbors** by Diane Giampa  
*Coastal towns receive aid in preserving the health, safety, and beauty of their waters.*
- 12 **Sifting Through the Sands of Time** by Edward F. Phillips  
*Archaeology students reach back into Connecticut's distant past.*
- 18 **New England's Forests** by Donald Goncalves  
*Once again, our forests have grown up and become economically and environmentally valuable.*

## Departments

- 2 **Editor's Note**
- 7 **Nature Notes** by Penni Sharp
- 16 **DEP Profile** by Robert Paier
- 20 **Bulletin Board**
- 23 **Trailside Botanizer** by Gale W. Carter
- 23 **Night Sky** by Francine Jackson
- 23 **Endnote**

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## Editor's Note

Sometimes you plan it, and sometimes it just falls into place. (And, let's face it, there are times when it doesn't go anywhere.) This time, the theme of the January *Citizens' Bulletin* revealed itself after the magazine was pretty much in the can. The theme is harmony — the intelligent, conscientious balance of the never-ending demands of economic growth with natural environmental systems. Of course, in one sense, that is what the DEP has always been about. In this issue, though, it became explicit.

Some time ago, before the time of general environmental awareness, and certainly before mine, I sat in on a meeting with a businessman, an architect, and a contractor. Big buildings were going up, and they were all guys very much committed to the greening of their wallets. They were discussing the construction of a parking lot, and there were lots of men, big machinery, and money poised, awaiting their decision. On the site of the proposed parking lot was a small, mightily unimpressive maple tree. At that time, those three wheel-dealers spent close to an hour figuring out how they could redesign the parking lot for no other purpose than to protect that lone, unremarkable tree. And, what was even more interesting, during that meeting, not one of them expressed any thought that there might be another way to go about things.

We live in a rather tricky century here. On the other hand, a little bit of cautious optimism might not be entirely out of line.

Happy New Year.

R.P.

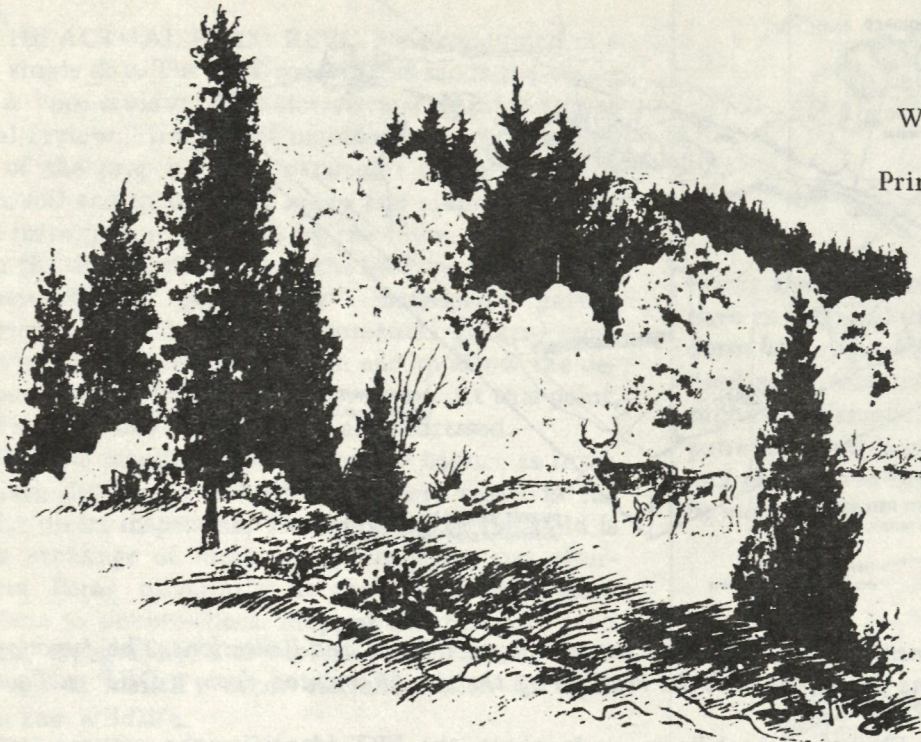
# The Environmental Review Team

by

**Margaret A. Carter**  
Environmental Intern

With introductory remarks by

**Jim Murphy**  
Principal Environmental Analyst  
Water Compliance Unit



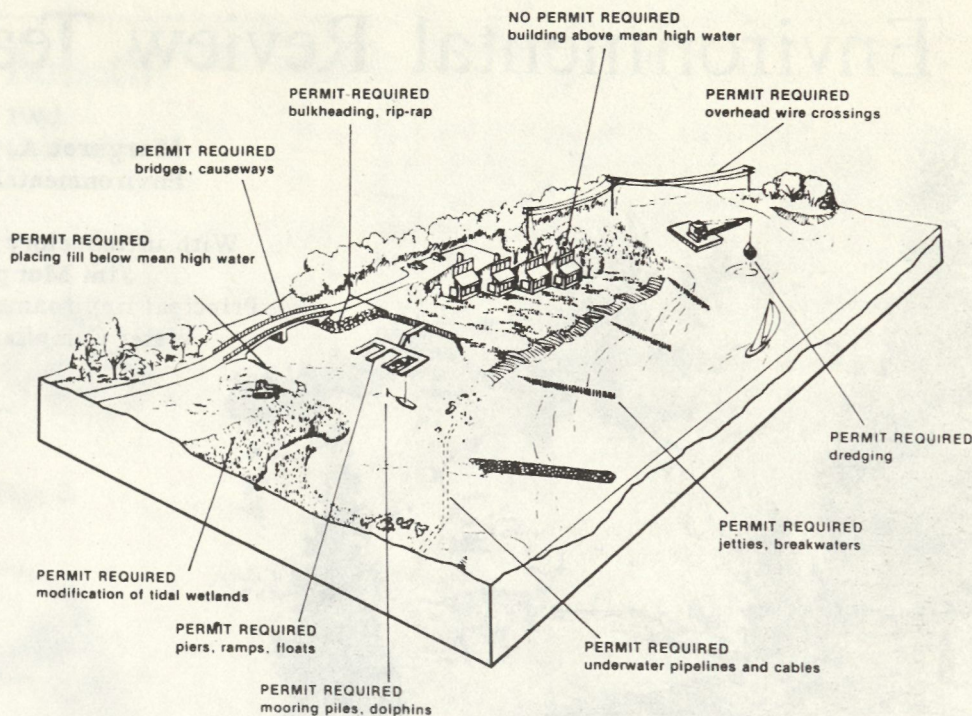
## Making the right decisions for a balanced environment

**I**N EVERY TOWN ACROSS CONNECTICUT, a quiet but intense struggle is under way. Like other contests we've read of in history books, there are opposing forces and there is a valuable prize at stake. But, unlike most historical struggles, we cannot readily label one side as the good guys, and another the bad guys, nor is there a coherent campaign strategy followed by strong armies marshalled together for a specific purpose. Rather, this contest is being waged among many small groups and individuals scattered across the state, usually acting independently. This struggle has more the appearance of many brush fires which erupt every day in every town. The antagonists are those who would bring changes and those who resist this change. The valuable prize at stake is one for which nations have fought for centuries: land.

Connecticut is a prosperous state, an enviable place to work and live. In such a dynamic state, change is inevitable. But, many people believe this change should not completely consume our remaining natural heritage, our woodlands, wetlands, waterways, and wildlife. We must remember Connecticut is a very small state; our rapidly growing population, with its unceasing demand for more space, has the potential to irrevocably smother our landscape with residential, commercial, and industrial land uses.

Finding an acceptable and harmonious balance between the legitimate needs of our populace and the protection of our natural heritage is not an easy task. For one thing, it is unrealistic to expect all open spaces will remain open, simply because most of this land is in private ownership and is an increasingly valuable commodity. But, as the land is developed, it is possible to minimize adverse environmental impacts and preserve significant natural features. Achieving this desirable end, this balance, requires recognition and understanding of a site's natural features.

*Jim Murphy*



*For every site on which development is proposed, there are many possibilities and limitations. The function of the ERT is to make those decisions consistent with the realities of the site. (Reprinted from a DEP publication)*

**F**IRST FORMED IN 1969, the Environmental Review Team (ERT) represents a unique inter-governmental, multi-disciplinary approach to the problems that confront us when we impose civilization on the natural world. The ERT's success is yet another proof that different interest groups can work together toward a common goal through compromise and mutual understanding.

The ERT conducts environmental reviews of sites proposed for major land use activities in order to help towns and developers go forward in an environmentally sound fashion. Correct development requires a knowledge of the land, its resources, and the long-term effects of man-made changes. However, simply because of the vast amount of information which must be considered, land use decisions can often times be difficult. The function of the ERT is to provide expertise and analysis, and to assist towns and developers in reaching environmentally sound decisions. The final step in the process is the compilation of a formal report. Through this document, the ERT:

- describes and evaluates the distribution, quantity, and quality of natural resources on the site.
- evaluates the probable effects of the proposed project on the environment.
- evaluates the ability of the site to support the proposed land use.
- suggests general management measures to avoid or minimize adverse effects.
- identifies alternatives to the proposed action.

In short, the ERT identifies the natural resource base of the project site and highlights opportunities and limitations for the proposed land use.

**I**N ORDER TO DO THEIR JOB, ERT members must be highly skilled and knowledgeable. They are professionals, drawn together from federal, state, and local agencies, including the DEP, the Department of Health Services, the Regional Planning Agencies, the USDA Soil Conservation Service, and the Cooperative Extension Service. Some of the fields represented are geology, biology, forestry, soil science, recreation, engineering, and land use planning.

The range of disciplines and personnel on a given ERT will vary, depending on the needs of the review, the availability of personnel, and the site characteristics. In some cases involving smaller projects, there have been as few as three members involved. In other cases, as many as 14 people were required to provide a complete review.

Using personnel from existing agencies on a request basis is considered more desirable than a single team operating on a full-time basis. In this way, members will spend the greater part of their time working in their respective fields, and will be able to keep up to date on current developments. Also, the ERT requires interaction among agencies, which might not otherwise occur, and allows these agencies to accumulate additional data on the sites reviewed. Each agency

involved has volunteered the time of its personnel to work on the ERT.

**T**HE ACTUAL FIELD REVIEW is conducted in a single day. The ERT coordinator sends the members a "pre-review" packet two weeks prior to the actual review. This packet includes a general description of the proposed site, particular concerns of the town, soil and topographic maps, and mapped or technical information provided by the town.

On the date of the review, the ERT members, town representatives, and other interested parties (concerned citizens and environmental groups) meet to review pertinent information and to allow the developer or town to present the proposal. At this point, specific questions and concerns are addressed.

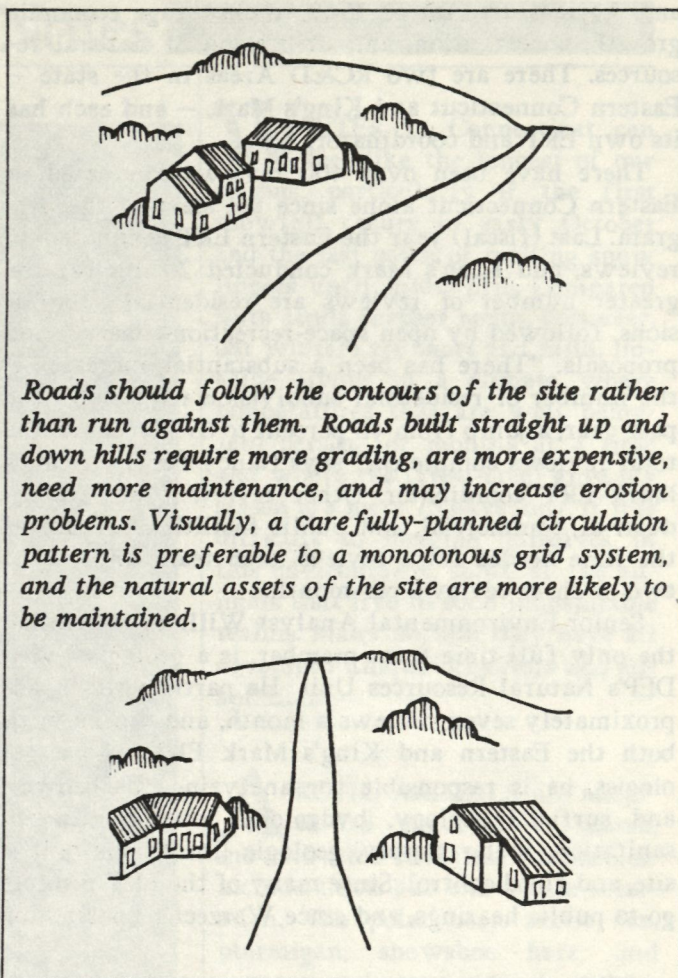
After the meeting, the site review begins, as town officials, developer, and ERT members move to the site for direct inspection. The emphasis in the field is on an exchange of ideas, plans, concerns, and alternatives. Being physically at the site enables team members to double-check mapped information, such as soils, topography, and surficial and bedrock geology, and to identify other resources, such as vegetation and wildlife.

Following the field review, a summary meeting is held at the site. This meeting is primarily for ERT members, although the developer and town representatives may take part. Here, potential problems, means of prevention or correction, alternatives, and possible trade-offs are discussed.

The last major part of the task is the preparation of the final report. Each team member prepares a report individually, and then the team coordinator draws everything together in terms understandable to the lay person. The completed report is then delivered to the requesting commission. Members of the team can be requested to come to a commission meeting to present the report and answer questions.

**A** CRUCIAL POINT HERE is that the information and recommendations supplied by the ERT are provided only as tools to be used in the development process. They are not binding. The final report does not advocate any particular position, but rather strives for balance and objectivity. Final decisions are made by the town and landowner or developer. On the other hand, the goal of all this is that the ERT will allow change to take place, but not at the expense of diminished environmental quality.

The benefits of the ERT service are reaped by both the developer and the general public. For the developer, particularly during the early stages of a project, expensive mistakes may be avoided. A developer will be more likely to include the ERT's recommendations



*Roads should follow the contours of the site rather than run against them. Roads built straight up and down hills require more grading, are more expensive, need more maintenance, and may increase erosion problems. Visually, a carefully-planned circulation pattern is preferable to a monotonous grid system, and the natural assets of the site are more likely to be maintained.*

if they are made before much money is spent.

The general public — homeowners and taxpayers — benefit by avoiding the costs of improvements and corrective measures for such big-ticket items as septic failures, sewer and water line construction, flood control, storm drainage, road maintenance, and erosion and sediment control. No financially stressed town or taxpayer in Connecticut wants to incur the costs of constructing, maintaining, and operating a sewage treatment plant that wasn't really necessary.

**A**LTHOUGH THE ERT was first established in Eastern Connecticut in 1969, it has been most active since 1973, when provision was made for two full-time coordinators. Since 1977, the program has been fully funded by the DEP.

The coordinators provide organizational stability for the ERTs, since the team composition is constantly changing. The two coordinators work through the Resource Conservation and Development Areas (RC&D) of Connecticut. The RC&D Areas have administrative structures which provide the basis for the interagency cooperation necessary for the smooth functioning of the ERTs. Resource Conservation and Development Areas were established in Connecticut under the Food

and Agriculture Act of 1962 to encourage economic growth, conservation, and utilization of natural resources. There are two RC&D Areas in the state -- Eastern Connecticut and King's Mark -- and each has its own ERT and coordinator.

There have been over 400 reviews conducted in Eastern Connecticut alone since the start of the program. Last (fiscal) year the Eastern ERT conducted 36 reviews, and King's Mark conducted 20. By far the greater number of reviews are residential subdivisions, followed by open space-recreation-conservation proposals. "There has been a substantial increase in the number of residential subdivision requests in the past year, a jump from 45 percent to 69 percent of the total reviews completed," says Nancy Ferlow, King's Mark ERT coordinator. Other review types are industrial, commercial, and public facilities. Because of the time needed for a review, each team undertakes two or three reviews per month.

Senior Environmental Analyst William Warzecha, the only full-time team member, is a geologist with DEP's Natural Resources Unit. He participates in approximately seven reviews a month, and works with both the Eastern and King's Mark ERTs. As a geologist, he is responsible for analyzing the bedrock and surficial geology, hydrology, sewage disposal, sanitation, water supply, geologic limitations of the site, and flood control. Since many of the ERT projects go to public hearings, and since Warzecha's portion of


the report addresses many of the towns' major concerns, he attends many municipal-level meetings. "Commission members, developers, and town officials use the ERT report as a tool to aid decision-making," says Warzecha. "The report provides a focal point for discussion and the clarification of highly technical information." After five years with the ERTs, Warzecha stated he has noticed a definite increase in local environmental awareness.

**C**ONNECTICUT'S NATURAL BEAUTY and charm have added immeasurably to property values and quality of life. With intelligent and conscientious planning, future development can proceed with understanding of and respect for both the environment and generations yet to come. Connecticut's Environmental Review Teams are helping us in harmonizing the demands of a growing society with an even broader sense of environmental responsibility. We can be grateful for that.

For further information concerning the ERTs, contact Elaine A. Sych, Eastern ERT Coordinator, P.O. Box 198, Brooklyn, CT 06234 -- Phone: (203) 774-1253; or Nancy Ferlow, King's Mark ERT Coordinator, 322 North Main Street, Wallingford, CT 06492 -- Phone: (203) 265-6695.

*With careful, judicious planning, Connecticut can maintain its high quality of life as well as keep pace with modern development.*

 Private lots

 Open space

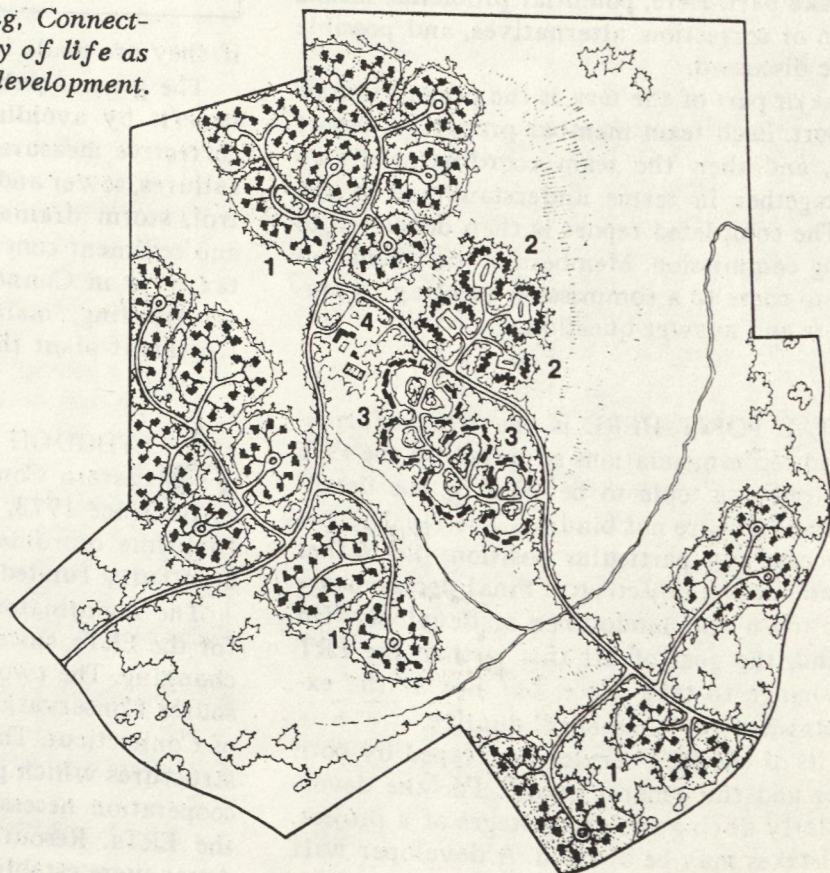
 Steep slopes

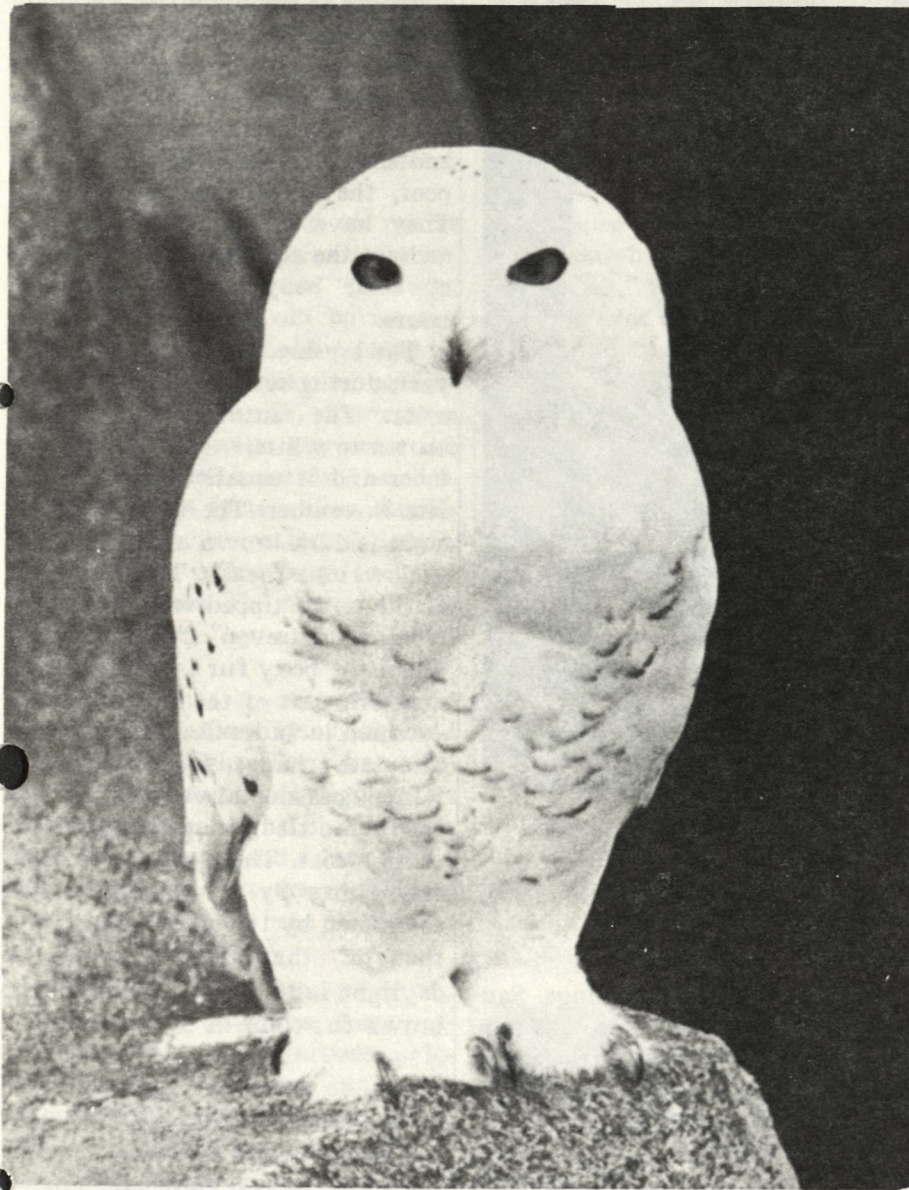
1 Single-family houses

2 Townhouses

3 Walk-up apartments

4 Community center





*If you see a snowy owl in Connecticut, the chances are it is a female.  
(Photo: L.L. Rue)*

## Animals of the Snow

by  
Penni Sharp

**W**INTER in Connecticut can feel like the longest of our seasons, particularly if the first snowfall occurs in early October and the last patch of melting snow lingers until mid-April. Compared with lands further north, however, our winters are short and mild. Imagine living in a climate where temperatures that are well below zero persist for months at a time and where the (frost-free) growing season is a mere 75 days long. If it is difficult to imagine ourselves in this environment, think of the animals that live in such inhospitable realms. Many do, and they have all developed unique behaviors and adaptations.

**A**RTIC ANIMALS are adapted to survival in harsh, snow-covered climates. Adaptations include thick fur and white coloration. The polar bear, arctic fox, ptarmigan, snowshoe hare, and snowy owl are animals whose white color provides excellent camouflage against a background of snow. Among animals, the white color is found in both the hunter and the hunted. With this camouflage, the predator can stalk its prey unnoticed and the potential prey, when still, is virtually invisible against the snow. In some animals, the white coat is worn year round. This is true for the polar bear, which spends almost its entire life amidst the ice floes. For others, the white fur or feathers are present only during winter, and the animals have two distinct color phases. For example, the rock ptarmigan has a gray-brown body with white wings and tail during summer, while it is pure white with black outer tail feathers in winter.

Animals that change coats are not restricted to the arctic zones. Animals with distinct color phases are Connecticut residents, and we occa-



Snowshoe hare in its winter coat. When still, this animal is virtually invisible against the snow. (Photo: L.L. Rue)

sionally are visited by birds whose normal range is a great deal further north.

**A**MONG THE ANIMALS found in Connecticut whose pelage varies seasonally is the short-tail weasel, or ermine (*Mustela erminea*). Ermines are active throughout the year, but are mostly nocturnal and are not readily seen. The adult males are distinctly larger than the females; the males range in size from seven to 11 inches and the females range from five to eight inches.

Ermines prefer brush and low thickets near water, and are also found along hedgerows, stone walls, and old buildings. Their dens are located under old stumps, rock

piles, or abandoned buildings. Several tunnels may lead into the den. The nest itself is lined with leaves, grass, feathers, and fur, the latter frequently that of mice.

Like other weasels, ermines are alert and curious creatures. When startled, they may dart for shelter, but will quickly reappear to have a look around. They are quite vocal and have a repertoire of calls, hisses, purrs, chatters, and screeches. They have been known to stamp their feet, presumably in annoyance, and, if frightened, will emit a strong musky odor from their scent glands.

Ermines are dogged hunters and are able to travel several miles in a single night in search of food. They stalk their prey by scent; when within several feet of a victim they

make the final, lightning-quick pounce. The prey is killed by a bite to the back of the skull. Ermines will often kill more than they can eat. They prey upon mice, chipmunks, voles, rabbits, birds, frogs, and small snakes. When hunting is poor, they will consume carrion. They have a high metabolic rate, and eat the equivalent of one third of their body weight every 24 hours.

The ermine has two molts every year, during which its coat changes color. The autumn molt, from brown to white, begins in early October and is usually completed by late November. The summer coloration is dark brown above and pale yellow underneath. The last third of the tail is tipped with black and remains so even during winter when the body fur is white. In the southern part of the ermine's range — which includes Connecticut — the complete change from brown to white does not always take place, and a mottled pelage may be the winter coat. The spring molt usually starts by mid-March and is completed by the end of April. It is thought that the increase in daylight initiates the change to the brown fur color in the spring.

**A**NOTHER ANIMAL that wears white in winter is the snowshoe or varying hare (*Lepus americanus*). The range of this animal lies mostly to the north and along the mountains, but it does extend to the northern part of Connecticut. The hind feet have long toes which can spread, and in winter, the soles of the feet are heavily furred. The hind feet act like snowshoes and help keep the hare from sinking into soft snow. Hares are thickly-furred with coats that match the seasonal background. In summer, the hares are a yellowish-brown marked with black. During the fall molt, the dark guard

fur is replaced by white, giving the animals an all-white appearance, even though the underfur remains dark. The fall molt can begin as early as September and last into December, and the spring molt from white to brown begins in March and ends in late June.

Snowshoes are found in nearly all types of forests with a dense understory. Coniferous swamps, spruce-pine forests, old burns, and cut-over areas are popular locations for the hares, and they are seldom noted in open areas. Snowshoes rarely dig, nor will they enter the burrows of other animals. For shelter, they select spots such as knolls with vegetation, protected ledges, under logs or fallen trees, or small clumps of trees. The shelter area is used regularly by an individual hare.

The snowshoe is active throughout the year, primarily at dusk and through the night. They are occasionally seen during daylight hours enjoying the sunlight or having a dust bath. They spend a lot of time sitting quietly, but are capable of great speed, having been clocked at 31 miles per hour.

Snowshoe hares are primarily vegetarians, feeding in summer upon a variety of plants including clover, grasses, dandelions, and ferns. In winter, the diet changes to twigs, buds, and tender bark. They will eat frozen meat when they come upon it.

Hares have a number of enemies, including man. They are preyed upon by owls, foxes, hawks, bobcats, and fishers. Their defenses against predation include agility, speed, and protective coloration.

Populations of snowshoe hares are known to undergo cycles. They will build up in numbers and then, for several years, inexplicably die off until the population is about 10 percent of the original high number. At this point, the population begins to increase again. Some un-

proven theories for this phenomenon are sunspots, weather, and disease.

IT IS NOT UNUSUAL for the snowy owl (*Nyctea scandiaca*) to make its way into Connecticut. The appearance of this owl in greater than usual numbers, termed an "irruption," is believed to be related to the cycles of rodent populations on the tundra. One staple of the snowy owl diet is the lemming, a small, vole-like rodent of the north country. Lemming population growth is cyclic. When a sudden decrease occurs, the snowy owl is deprived of a major food source, and moves south in search of other sustenance. Interestingly, most snowy owls seen this far south are thought to be female. It is possible that these are stray owls which never find their way back to the tundra.

This large, "earless," white owl, with its bright yellow eyes, is an unforgettable sight. It is one of the largest owls, with a 60-inch wingspan and a 25-inch body length. The snowy owl hunts silently over marshes and fields. A bird of the

open country, it is rarely seen perched in a tree. When the snowy owl appears in Connecticut, it is usually along coastal areas, broad marshes, or large expanses of open field. When resting, it may select a rooftop, fence post, or sit directly on the ground.

The snowy owl is seldom entirely white. The breast and back are often mottled with gray or light browns. Females tend to be darker than males. On both sexes, the feet are covered with thick white feathers.

Snowy owls nest in the far north. The nest itself is a shallow saucer on the ground, and is lined with moss, lichens, and feathers. Five to eight eggs are laid and hatch sequentially, so that owlets of differing sizes will occur in the same nest. The young birds are more heavily barred than the adults.

It has been a number of years since large numbers of snowy owls have appeared in Connecticut. Perhaps there will be an irruption this year or next. In any event, when near the coast in winter, one should always be on the lookout for this visitor from the north country. ■



The short-tail weasel is a predator which uses its white camouflage to stalk its prey. (Photo: Irene Vandermolen)



*The Norwalk Seaport Association has recently purchased the Sheffield Island Lighthouse. New grants will be used to improve docking facilities.*

# Connecticut Towns Improve Coastal Resources

by  
Diane Giampa  
Planning and Coordination  
Coastal Management

**T**HIS PAST FALL, DEP Commissioner Leslie Carothers announced the awarding of eight coastal management grants to Connecticut coastal towns for a variety of approved special projects along the shoreline. The purpose of these grants is to assist towns in addressing problems, special opportunities, and recommendations which may have been brought to light by the towns' completed municipal coastal programs. "Many of our coastal towns submitted excellent proposals," Commissioner Carothers said, "and limited funding forced us to make difficult choices among them. But it is gratifying to be able to support the towns in local coastal management efforts as diverse as harbor management, commercial fishing, dune restoration, public access, and recreation."

The latest announcement of coastal management grant availability solicited approximately \$350,000 worth of qualified proposals from 18 coastal communities. But because of funding cutbacks, only slightly more than a third of the money needed was

available for the large number of deserving proposals competing for the funds. Some highlights from the towns' planned use of the funds follow here:

- Clinton will improve recreational opportunities at its town beach. Two restrooms and two changing rooms will be built, and the parking lot will be regraded and paved.
- Darien created a Harbor Management Commission in 1985, and will use its grant to prepare a harbor management plan. The town's completed plan will identify existing and potential problems in each of its five harbors, and will recommend ways to best use and yet preserve these harbors.
- East Lyme will also develop a harbor management plan that takes into consideration the protection of coastal resources, commercial and private boating interests, the needs of power and sail boaters, swimmers,

and people who fish and shellfish.

Groton plans to take a close look at the town-owned waterfront land along the Poquonnock River that currently includes tidal wetlands, shorelands, and the Groton Bikeway System. The town will identify and design additional recreational uses and public access opportunities.

Norwalk Seaport Association has recently purchased the Sheffield Island Lighthouse and a portion of the island. The Association plans to restore the structures on the property and create a museum open to the general public. Norwalk will use its grant to repair the dock on the island to accommodate tour vessels to allow the public to visit this historic site.

Stratford will use its grant to join the ranks of the many Connecticut coastal towns which have already designed and implemented a municipal coastal program to establish an individualized long-range land use plan for coastal development and conservation. Having such a plan will enable Stratford to address

coastal issues of particular local concern.

Westport intends to improve the recently acquired Saugatuck River Park as a new waterfront recreation area for public use. The improvements will include the installation of benches, signs, a walkway, and landscaping.

Waterford's grant will enable that town to develop a computerized geographic information system which will provide the town with the ability to examine the relationships among natural resources on a dynamic, ongoing basis, and will allow a continual update of information as a result of new development.

WE ARE PROUD OF THE INITIATIVE and creativity demonstrated by Connecticut's coastal towns in the conception and design of these projects," Commissioner Carothers said. "It is an indication of a strong local commitment to both environmental conservation and coastal revitalization that benefits all of Connecticut's citizens."

## Map of the Month

by  
Alan Levere

Senior Environmental Analyst

Geography, geology, and economics are the basis of the new map recently introduced by the Natural Resources Center: *Bedrock Mines and Quarries Map of Connecticut*.

The map was compiled by Robert J. Altamura, a geologist with the DEP's Natural Resources Center, and includes two major concepts. First, it indicates the location of active and inactive bedrock mines and quarries in the state by identifying the mined commodities as either rock, mineral, or metallic ore; and secondly, it shows the underlying bedrock geology of all the mines, and thus the state.

The trap rock ridge/basalt quarries that you see as you travel through the Newington/Plainville areas are represented as "active rock quarries with rock as the primary commodity, crushed stone as their product, specifically trap rock/basalt." In South Killingly, you find an active rock quarry

dealing in dimension stone — that being specifically flagstone/quartzite.

Marble in Connecticut? There are four active marble quarries in the state's northwest hills that are now producing agricultural lime products. In pre- and post-Revolutionary times, iron was mined in sufficient quantities to forge the chain that spanned the Hudson River at West Point to block the British ships from advancing further north.

Newgate Prison in East Granby was a copper mine before it was a prison, with the "Higley coppers" coined locally from the processed ore. It too is represented on the map. Today Connecticut ranks among the top 10 states in value of mineral production per square mile (excluding fossil fuels).

The underlying bedrock geology is the rhyme and the reason for the trap rock ridges in Connecticut's central lowland, the granite formations of the southeast, the marble in western Connecticut, and the iron in the northwest hills. Understanding the bedrock geology leads to a

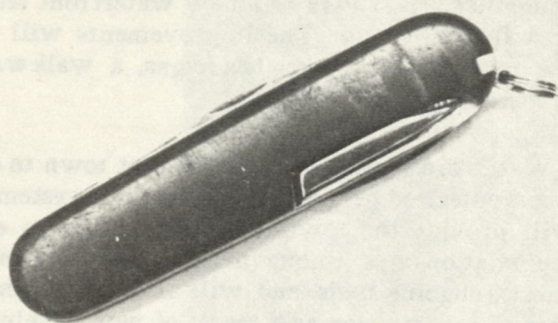
better understanding of the land use, in this case mining, and vice versa.

More than 600 active and inactive mines and quarries are represented on the map. While few of the mines are accessible to the public today (safety hazards, private property, etc.), a drive by will increase your knowledge of the land use of today and of days gone by.

The five-color map measures 44 by 55 inches, and comes with a booklet citing bibliographic references for the *Bedrock Mines and Quarries Map of Connecticut*. It is printed at a scale of 1:125,000, with one inch representing approximately two miles.

To order, please send \$12.75 (two copies \$23.50) to cover the map, tax, and handling to: DEP-NRC, Map Sales, Room 555, 165 Capitol Ave., Hartford, CT 06106.





*This bifurcated base point may have been dropped in Ledyard by Early Archaic hunters 8000 or 9000 years ago. The tip was broken off, perhaps during manufacture.*



*Excavating is exact and delicate work; but it involves dust pans. (Photo by Carl W. Rettenmeyer)*

## Sifting Through the Sands

### Archaeology students at UConn reach into Connecticut

Text and photos by Edward F. Phillips, Development Specialist, Connecticut State

**D**URING THE SUMMER OF 1987, a two-week field school on basic professional archaeological techniques was held at the Mashantucket Pequot Indian Reservation. The school, led by Kevin A. McBride, director of the Public Archaeology Survey Team (PAST), University of Connecticut, was co-sponsored by The Connecticut State Museum of Natural History.

To prepare, the students reviewed Connecticut's geological and human history. Then McBride and the group worked at the site on the reservation. Later, the school concluded in the archaeological laboratory at UConn, where students classified and catalogued material recovered from the excavation.

**A**BOUT 15,000 YEARS AGO, the last of the glaciers that covered Connecticut retreated, leaving scoured and barren ground. Melting ice soaked the

soil down to the permanently-frozen level.

The surface became tundra, a wet and treeless landscape covered with thick, low-growing bushes, and an underlayer of frozen subsoil. Today, tundra extends all across the northernmost reaches of North America and Eurasia.

In time, the cold air receded and spruce trees grew where tundra had been. Large, cold-adapted animals — including moose and caribou — lived in the new subarctic forests. By 10,500 B.C., Paleo-Indian hunters were filtering into the region in pursuit of these large animals.

Although confirmed Paleo-Indian hunting campsites are rare, some have been identified both northwest and northeast of Connecticut. If the early hunters did indeed move from south to north with the softening climate, then it is a safe bet that they were also in Connecticut at that time.

The woods in what is now southern New England



*olves very common hand tools such as shovels, trowels, palls,*



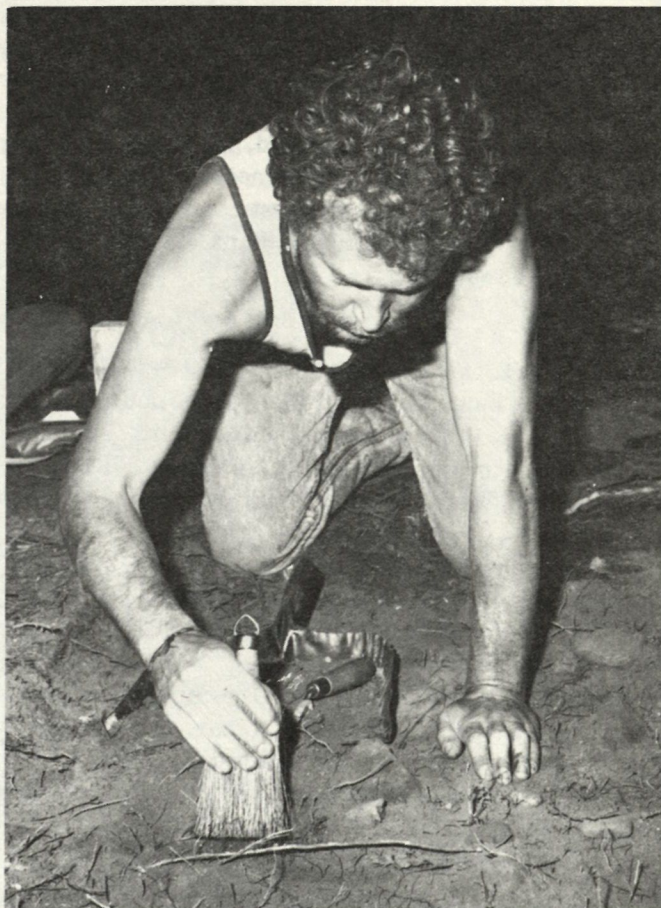
*The sifter screen catches many small objects such as this point which otherwise would have been lost.*

## of Time ecticut's distant past

te Museum of Natural History

and New York State gradually changed from coniferous to deciduous; and as the spruces were supplanted by hardwoods, the forests' ability to support animal life substantially increased.

By 6,000 B.C., the larger game had been practically hunted out, but smaller animals proliferated in the new forests. The big game hunters were either displaced by, or evolved into, a new culture, the Archaic Indians, who hunted deer, black bears, smaller furbearing animals, and birds. They caught fish, collected shellfish, and gathered nuts, seeds, and plants. With greater food resources, the Indian population grew and spread all across the region.



*The whisk broom is used to expose objects without risking damage to them.*

**T**ECHNOLOGY DEVELOPS from an already existing base, slowly at first when knowledge is

limited, and then faster. So it was with the new inhabitants of the Americas. In the beginning, their tool kits displayed little variety, but gradually equipment became more sophisticated and new forms appeared. Options for adaptation expanded.

Differences in equipment style indicate different ways of responding to the environment. Coastal people had needs different from those of their upriver cousins. Tool kits in the midwest were different from those in the northeast. Life was becoming complicated.

**A**ROUND 1,000 B.C., people in the northeast learned to work with clay. In short order, the pottery industry eclipsed the soapstone industry in most places. Soapstone was worked into bowls, dishes, and other vessels by men, but clay was worked by women, and clay was the material of the future. Men were not thrown out of work, however. They still hunted and the women still raised the babies and the crops. Quite likely, where hunting and gardening were both utilized, the gardens supplied most of the food.

Indian cultures evolved continuously throughout the Woodland period and the Contact period which followed in the 17th and 18th centuries A.D. Trade with the European settlers increasingly dominated the economic activity of the Indians.

The English took advantage of the natives' custom of holding and using property in common, and soon controlled much of the best land, in many cases excluding the Indians from their ancestral homes. Conflict was inevitable, and the first important war between the English and the Indians in Connecticut occurred in 1636.

**T**HE PEQUOT WERE THE MOST POWERFUL and the most feared of the Connecticut Indians. They lived in southeastern Connecticut, but controlled everything from the Connecticut River to Rhode Island, the home of their enemies, the Narragansett.

The English attempted to eliminate the Pequot and, with the help of the Narragansett, attacked a Pequot fort at Mystic. Approaching by surprise overland through Narragansett territory, they took the fort and wiped out between 300 and 700 occupants. The Pequot were broken. The balance of power in Connecticut shifted permanently to the English.

Although dispersed and actually given in slavery to their enemies, the Pequot somehow managed to hold on to their identity. They persisted in attempts to return to their homeland and, in 1667, the government allowed them a 2,000-acre reservation at Ledyard, named Mashantucket. This tract has probably

been occupied solely by Indians since the Paleo-Indians first entered the region.

**T**HE DEVELOPED PART OF MASHANTUCKET looks like a prosperous Anglo neighborhood. Prosperous it is; Anglo it is not. The Pequot own all the real property in common, including the homes, for which there is a waiting list. The reservation is supported primarily by three tribal businesses: a gravel pit, a pizza restaurant, and a high-stakes bingo operation.

Mashantucket has changed little over the thousands of years that people have walked and worked its rocky hills. Much of the land that was cultivated in the last two or three centuries is covered with second growth woodland. It is bounded by a cedar swamp that to this day looks like a good place to hunt deer.

The 1,500 acres of the reservation, plus a nearby Indian cemetery, are under intensive archaeological survey. This survey is called the Mashantucket Pequot Ethnohistory Project. The survey, now in its fourth year, is being done by the Public Archaeology Survey Team, Inc., or "PAST."

Team Leader McBride describes the study as an effort to trace one group, the Pequot, through time. In fact, however, these digs have revealed materials from cultures that existed thousands of years before the Pequot.

**P**AST ARCHAEOLOGISTS use sophisticated scientific techniques in their investigations. In addition to map and records searches, aerial photography, and walkover surveys, they use ground-penetrating radar and electrical resistivity testing.

The survey has now reached the grid excavation stage — the "dig" of popular archaeology writing. The sites have been marked off with string into one-meter squares. The grids are measured, aligned on primary compass headings, identified by location, and recorded on site maps. Workers are assigned to the squares which then become the actual pits.

The basic tools are square-bladed spades, small pointing trowels, line levels which go on the string, whisk brooms, pails, and quarter-inch grid-wire screens for sifting the dirt.

Stacks of printed forms are kept close by for recording everything from artifacts to soil composition. Nothing can be left to memory, because digging automatically destroys the site.

Sites vary across the reservation, from an isolated dwelling foundation to an overhanging rock where hunters took shelter and dropped a spear point 4,000 years ago. The sites span the years from the early 20th

century to a time, thousands of years ago, when hunters roamed the great northeastern forests.

**T**IME IS WORKING against the archaeologists on one of the sites. The Pequot, who are paying for the survey, plan to build a museum at that spot. The survey team is racing to recover as much material as they can before construction begins next year. In this situation, it is important to move as much dirt as possible, trading off complete recovery for speed.

The museum will be at the site of the largest dig. It covers about four acres of wooded hilltop on the edge of the cedar swamp. Indians camped here about 2,000 B.C., probably while they foraged for food. Most material found here was left by late Archaic Indians, but a few much older pieces have turned up in the same pits. One particular point, identified and located on the time scale by style, may be as old as 9,000 years.

This spear or harpoon point has a bifurcated base which represents an entirely different technology from the more common points found in the same location. When enough artifacts from the same time period show up together, they present a meaningful story. But a single point found without other objects of the same age is an item out of context. There is no way to figure out who used it, or why.

Workers on the museum site also uncovered a prehistoric fireplace about a foot below the surface. It was built of stones placed in a broken ring and looks like any outdoor fireplace. A series of postholes around it suggests that it was inside some kind of structure. The postholes were identified by discolor-

ations in the soil. The campers who cooked the last meal here probably did so several thousand years ago.

Articles of archaeological importance are ideally located in successive layers of undisturbed soil. Stratification creates a time scale on which lower objects are usually older than objects closer to the surface. A couple of centuries of plow farming, unfortunately, have thoroughly mixed the dirt here. The chances are slim of finding an object and knowing when it was deposited by its depth underground.

**T**HE STUDENT ARCHAEOLOGISTS soon find out that the work is neither easy nor glamorous. A few people drop out early. The paperwork is heavy, though not as heavy as the dirt that must be moved all day, every day. Eight hours in summer heat, bending, scraping, lifting, and sifting, while plagued by biting flies and mosquitoes, can exhaust even inspired archaeology students. Most buckets of dirt yield nothing, a few give up a chip or two. But, once in a while, something comes out of the dirt that galvanizes the entire crew -- a spectacular stone point or awl or core.

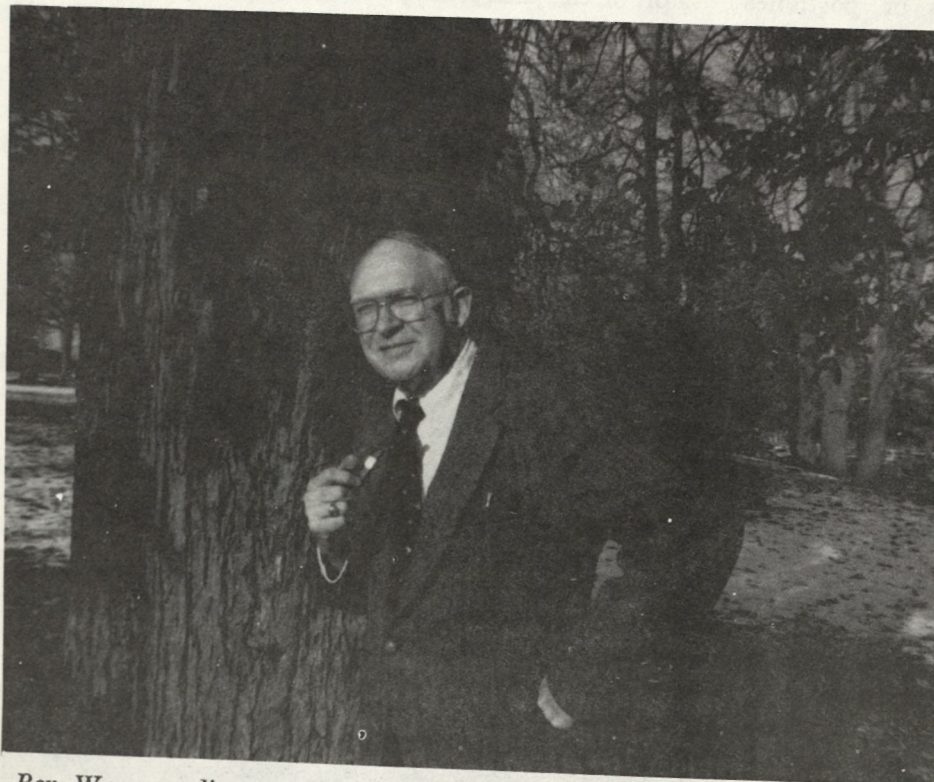
Electrifying as these ancient prizes are, the final objective of archaeology is more than a collection of old points and picture of the foundations of long dwellings. This is a grand effort to remove the curtains of time that hide the people who came before us. The simple objects tell about a way of life, preserving a bit of the past. And, possibly by telling us where we have been, they may help us get to where we should be going -- if we are smart enough to pay attention. ■



*Prehistoric Indian hunting parties frequently incorporated overhanging rock ledges in their shelters.*

## Taking it to the Brink

by  
Robert Paier



*Ben Warner, director of the DEP's Water Resources Unit, feels his broad experience has helped him in his complex and demanding job.*

**F**ABLES. Stuff from the realm of the fabulous. The thing about fables is, you can't be absolutely sure they ever happened. Probably not, but it's that uncertainty that gets you. Fables make sense, in a weird sort of way, but they strain the imagination. For example, here is a New England fable.

**O**NE DEEP, DARK night many years ago, the circus came to a quiet Connecticut town. A great procession of elephants, horses, camels, wagons, and people wound through the dark streets in that moonless New England night. And, of course, there were wild animals too, much too fierce to walk outside, but in cages, pacing restlessly. And, because the night was so dark, the procession took a wrong turn, went off the road, and down a long driveway that led to somebody's house. When the procession reached the house, the circus people realized they had made a mistake, but the procession could only con-

tinue around the back yard and march back to the main road.

Now, the family who lived in that house was very excited and happy. "Oh, let's wake up Baby Ben," said the mother to the father. Baby Ben was fast asleep in his crib when his father shook him gently. "Wake up, Baby Ben," the father said. "The circus is here. The circus has come to our house."

Baby Ben was very sleepy, and he wasn't exactly sure what a circus was, but he sensed something very wonderful was happening, and he went downstairs with his father.

"Just wait till you see, Baby Ben," cried his mother, and she picked him up, took him to the back door by the kitchen, and she threw open wide the door.

And there, right outside, right at the bottom of the porch stairs, with a huge head, bright shining eyes, flowing mane, and long white teeth, was an enormous, ferocious, roaring lion.

THE BABY in that New England fable was, of course, Ben Warner. Ben will not deny that it has had a profound effect on him. Just what that effect was, however, would be hard to say. If one were of a psychoanalytic bent, one might say that Ben has now turned the tables on the big universe, and that now he, Ben, is showing the lion to you.

Ben Warner is a humorous fellow. It's the kind of humor that leaves you vaguely unsettled, disoriented. "In my humour, I like to take things to the brink," says Ben, not too helpfully. Another example: Ben recently announced that he had spent part of the previous weekend at the "Second Annual Black Powder Shoot and Road-kill Cook-out." Funny. A little weird, but funny. A good joke, Ben. Then, a week lat-

er, Ben shows you photos from the event, along with banners, signs, and a cake, beautifully decorated, announcing the "Second Annual Black Powder Shoot and Road-kill Cook-out." That's it, you see. You can never be sure.

THAT'S ONE ANGLE on Ben Warner. Another is that he is the director of the DEP's Water Resources Unit, a position he has held since 1978. The Water Resources Unit is one of the larger and more complex of the units in the DEP, now employing 36 people, and going for six more. The Unit has a state-wide responsibility for such water-related areas as inland wetlands, tidal wetlands, dredging, diversions, encroachments, flood control, dam safety, flood insurance, and more. Issues addressed are complex, and are often inter-related with other units of the DEP. "My talent has been to be astute or lucky enough to pick the right people," says Ben. "I'm just not smart enough for the complexity that is involved here. I always make sure I ask for advice from my staff. The director just can't do it alone. I give all the credit to the people I work with."

Before Ben joined the state, he attended the University of Connecticut, and then spent two years in the Army, serving as a squad leader in Germany. After his discharge, he returned home to Barkhamsted, where he took over and very successfully ran his family's 200-acre tree farm. Ben still owns the farm, and there are indications that it may figure strongly in his future. His original goal in entering state service was to be a forester, but he became involved in other areas, such as water resources and conservation. "My first jobs gave me the opportunity to travel all over the state, so I got a very well-rounded education in the environment, the

state of Connecticut, and the people who live here." Ben feels his broad experience and perspective have paid off well in his present position.

BEN'S RESUME says that he resides with his wife Dot on Ratlum Mountain in Barkhamsted and that, when not working for the DEP, he enjoys looking after the tree farm and writing poetry. Poetry. Another dimension to Ben Warner.

The *Citizens' Bulletin* doesn't usually go with poetry, but maybe the time is right. Here follows one of Ben's latest.

#### Wild Geese

Like black fingers etched upon  
the grey November sky,  
Branches now naked from their  
fall display  
Frame the flock as they  
fly.

And now as they pass the apex  
of my view,  
I hear their faint and distant  
cry,  
With eye and ear I follow the  
ever-changing Vee.

As strong new birds each in its  
turn  
Must give the lead a try,  
Now as time and distance fade  
the  
Formation from my sight,  
Alone, I comment on their pas-  
sage  
with a sigh.

THAT'S A LITTLE BIT of Ben Warner. A neat guy to work with, if you don't mind being led to the brink from time to time, if you think you're up to looking the lion in the eye. ■

# New England's Forests

Where economic  
development and  
conservation grow  
together

by  
Donald Goncalves  
Yankee Forest  
Cooperative Project



**H**I-TECH AND INDUSTRIALIZED though we may be, New England is in the middle of an old-fashioned logging boom. Images of flannel-clad lumberjacks aren't just the stuff of nostalgia, but can be seen today dotting New England's countryside. The sound of the chainsaw in the woods means fuel for New England's economy and profits for private land-owners.

Surprisingly, the more urban New England has become, the more forested it has become. The most heavily forested timberland in the United States is in New England. Nearly 32 percent of all commercial forestland is in the northeastern portion of the U.S. and 20 percent of that is in New England. And the forests are growing every year, having nearly doubled since 1920.

Southern New England (Connecticut, Massachusetts, and Rhode Island) boasts 6.2 million acres of forestland, nearly 90 percent of which is privately owned, while in the Western states the bulk of forestland is owned by the federal government and by large wood-product companies.

**U**NFORTUNATELY, it's not all good news. While southern New England possesses wealth of forestland, its full potential is not being realized.

Currently, less than one third of southern New England's wood fiber is being used for the most valuable high quality lumber and veneer. Despite an abundance of timberland, most of the region's high-value wood products are imported; much of the value of locally-cut timber is lost due to lack of wood processing facilities.

State and federal foresters believe this situation can be reversed, with southern New England's woodland providing a new resource for economic development.

**T**IMBER WAS NOT ALWAYS in such abundance. As the early settlers put down stakes, the land was cleared for agriculture and timber was used for fuel. As agriculture activity in New England declined in the late 1800s, the land was left undisturbed and the forests grew back.

With timber again in supply, the region turned to wood products for its economic base, using its new-found natural resource for railroad box cars and ties, furniture, building materials, and tools. The industry collapsed in 1929 as a result of the Depression and again, the forests were replenished.

**I**N AN EFFORT TO REJUVENATE New England's wood-producing economy a third time, while simultaneously addressing environmental concerns, Connecticut, Massachusetts, and Rhode Island are pooling efforts to implement the Yankee Forest Cooperative Project.

The Yankee Forest Demonstration Area is a testing ground, covering nearly one million privately-owned acres where the three states meet. The Project has set out to protect the valued woodland from urban development through the alternative of sound forest management. Information and programs on forest management provide other benefits, such as increasing potential for wildlife and protecting the environment from water erosion through long-term forest management.

Data from the federal Office of Technology Assessment indicates that world demand for wood products is expected to increase, while competition from other wood-producing countries, especially Southeast Asia, is on the decline.

Demand for wood products is up, especially hardwoods that grow half as fast as softwoods, such as red and white pine. When the popularity of red oak furniture and cabinetry increased in the 1970s, sawmills that had lain dormant for nearly half a century came back into action.

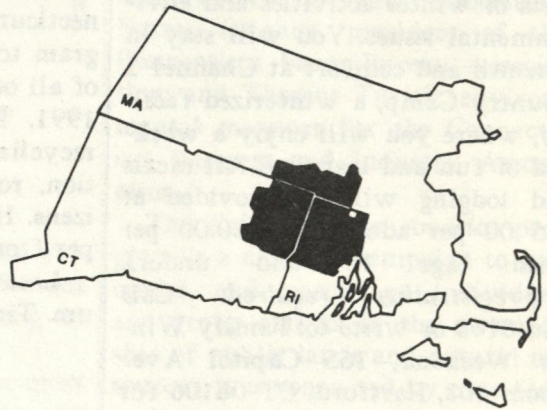
Production of hardwood in Connecticut rose from 38 million board feet in 1971 to 80 million in 1985. (An average tree yields about 150 board feet.) Similarly, hardwoods carry big price tags. Prices for

standing red oak trees climbed from a meager \$15 per 100 board feet in 1971, to today's high of about \$250 on an average.

With reforestation tax write-offs and an income-producing forest as incentives, state and federal foresters are counting on landowners to realize the necessity of an intensive forest management plan for the overall health of timberland and the economy.

**S**O IMPORTANT IS THE FUTURE of New England's woodland that the Yankee Forest Cooperative Project is offering initial technical assistance to landowners interested in undertaking a management plan. Thousands of other non-forest owners are expected to reap the long-term benefits in healthy forests which will provide a source of future quality wood, water, recreation and wildlife.

If enough landowners jump on the bandwagon, foresters predict that "working" forests will improve the environment and stabilize the forestland, while bringing jobs and revenues to rural economies. Ultimately, the fate of southern New England's forests rests with individual landowners. Cooperative programs, such as the Yankee Forest Cooperative Project, are there to help to ensure the health of a vital resource for future generations. ■



# The Bulletin Board

## Outdoor Discovery Program

### January 9: Ice Fishing Clinic

Join DEP educators and ice fishing experts for an information and "hands-on" program. Learn the basics of ice fishing, equipment bait, and special techniques. A Connecticut conservation officer will be present to answer any questions on state regulations regarding this sport. Sample bait and fishing gear will be available.

Location: Bolton Lake Boat Launch Area, Route 44, Bolton.  
Time: 10:00 a.m.

### January 16-17: Family Overnight Winter Weekend.

This weekend will introduce you to all sorts of winter activities and environmental issues. You will stay in warmth and comfort at Channel 3 Country Camp, a winterized facility, where you will enjoy a weekend of fun and learning. All meals and lodging will be provided at \$25.00 per adult and \$20.00 per child (age 16 and under).

*Pre-registration required.* Call 566-8108 or write to: Family Winter Weekend, 165 Capitol Ave. Room 108, Hartford, CT 06106 for more information and pre-registration package.

**February 6: Cross Country Skiing Clinic.** You and your family don't need to be experts to join in the fun at Bigelow Hollow State Park with DEP volunteer Steve Curry. This experienced skier will offer tips from picking out equipment to caring for it and aid those who want to sharpen their skiing skills. Though remote, this state park is one of Connecticut's most scenic and well worth the drive.

Location: Bigelow Hollow State Park, Union. Time: 10:00 a.m.

**February 20-21: Family Overnight Winter Weekend.** Spend two days learning about the winter outdoors with some of the best naturalists and environmental educators in the state. You will stay in the warmth and comfort of Channel 3 Country Camp, a winterized facility, where you will enjoy a weekend of fun and learning. All meals and lodging will be provided at \$25.00 per adult and \$20.00 per child (age 16 and under).

*Pre-registration required.* Call 566-8108 or write to: Family Winter Weekend, 165 Capitol Ave., Room 108, Hartford, CT 06106 for more information and pre-registration package.

### March 12: Recycling Clinic.

Learn the whys and hows of Connecticut's ambitious statewide program to recycle at least 25 percent of all our municipal solid waste by 1991. Topics will include regional recycling systems, town participation, roles of civic leaders and citizens. Hands-on project making paper from old newspapers.

Location: Lutz Children's Museum. Time: 10:00 a.m.



**March 26: Water Quality and Quantity.** How clean is the water we drink? Where does it come from? Is there enough now and for

the future? Through lecture, a field walk, and some hands-on investigations, participants will learn the answers to these and other questions as we focus on Connecticut's water resources.

Location: Belding Wildlife Management Area. Time: 10:00 a.m. ■

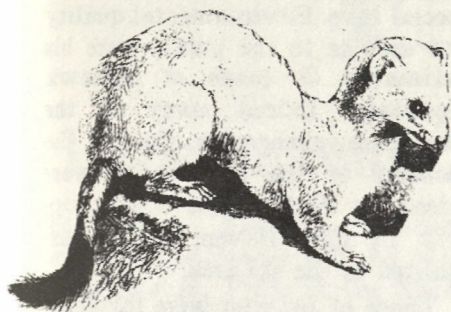
## New Shrub Book

Landscaping can represent a serious investment for the average homeowner; when it comes to buying shrubs for the yard, it's a jungle out there. What likes sun? Shade? What type of soil is good? The Connecticut Arboretum at Connecticut College has published a booklet, *Native Shrubs for Landscaping*, that answers such questions. The booklet costs \$3.50 and can be ordered by calling 447-7700.

The booklet is co-authored by Connecticut College botany professors, Sally Taylor and William Niering, and Glenn Dreyer, assistant to the director of the Arboretum. "It's for people who like plants, but don't know a lot about them or how to use them," said Taylor.

This book will not only help you choose between mountain laurel, dogwood, or juniper, but it will also help you select the variety of each shrub most suited to the conditions in your yard. Take the book to the local nursery and it will guide you to the plant most likely to thrive in your yard while meeting aesthetic needs.

In 40 pages, the authors take the reader on a tour of over 50 different varieties of native shrubs. The authors divide this botany lesson into two sections; the first half of the book describes, in a few paragraphs per shrub, some of the most popular and most used native



plants; the second half, called "Other Native Shrubs," lists less familiar plants and their habitats.

Two different sets of charts and tables help readers select the best plants for specific soil, moisture and sun/shade conditions.

Thirty-two color photos show different shrubs at their most brilliant moments. Many of these slides were taken from the authors' personal collections and provide a colorful display of New England's own plants.

The booklet includes only native shrubs to help promote native spe-

cies and to help the reader select plants most likely to succeed in their natural environment. The foreword points out, "As we continue to alter the natural landscape around us, these attractive native shrubs are beginning to disappear. By buying propagated, not wild-collected, plants for use in landscaping we can help to preserve this rich gene pool for the future generations."

For those readers who wish to see the plants in real life, most are on display in the Connecticut Arboretum at Connecticut College on Williams Street in New London. The Arboretum is open to the public and the booklet tells the reader exactly where each type of shrub is growing in the Arboretum.

*Native Shrubs for Landscaping* was printed with the help of a gift from Prides Corner Farms Nursery in Lebanon, Connecticut. It joins a library of 29 other booklets produced by the Connecticut Arboretum at Connecticut College.

## Boating Volunteers Wanted

Are you an avid boater? Would you like to be a part of our commitment to safe and responsible boating in Connecticut?

Boating is fast becoming our most popular recreational activity in Connecticut. During the summer season, our lakes and waterways abound with Connecticut boaters as they enjoy a leisurely cruise, sail, fish, or take part in other water sports.

The increased activity and demands on our waters have caused the Connecticut DEP to increase its efforts to ensure that state waters are safe and enjoyable.

The Boating Safety Education Unit of the Marine Patrol Division

would like to invite you to become a part of our Boating Safety Education Program.

In your hometown or at your marina, you can be instrumental in helping the young boaters of Connecticut plot a course to safe and courteous boating.

For more information, call or write: Joseph B. Gillis, Boating Safety Education Coordinator, 333 Ferry Road, Old Lyme, CT 06371; (203) 434-8638. ■

## Take Pride in America

Leslie Carothers, commissioner of the DEP, announced the names of three citizens, active in Connecticut's environmental and agricultural activities, who will serve as judges for the 1987 *Take Pride in America - Connecticut* awards program. The judges are John Hibbard, executive director of the Connecticut Forest and Park Association; Norma O'Leary, president of the Connecticut Farm Bureau Association; and Thomas Turick, environmental manager for the Connecticut Business and Industry Association.

The *Take Pride in America* program is a national campaign to recognize and encourage individual and group efforts in the stewardship of public lands and natural resources. It is sponsored by nine federal agencies, most states, and a number of private sector organizations and individuals.

The national program has utilized a series of public service announcements, featuring Charles Bronson, Clint Eastwood, and Louis Gossett Jr., with messages aimed at the elimination of vandalism at public facilities and the promotion of volunteer programs.

Five organizations and individuals were recognized in the 1986 *Take Pride in America - Connect-*



icut program. In April, Governor William O'Neill presented plaques to Albert F. Bennett of Fairfield, Nancy N. Kriz of Thompson, Friends of the Northwest Park in Windsor, Norwalk Clean and Green, and Northeast Utilities for their past efforts.

"Connecticut is very fortunate to have a citizenry that includes a very high percentage of concerned and active individuals, who donate millions of dollars in volunteer support to various federal, state, and community programs," Commissioner Carothers said. "The *Take Pride in America* program is designed to provide some measure of recognition for that outstanding service."

Anyone interested in submitting nominations for this year's awards should contact the DEP Information and Education Office immediately at 566-5599 or 566-5524. ■

## In Memoriam

The death of Walt Schoenknecht saw the passing of one of the giants of the ski industry in America. A visionary and a man of action, Walt conceived the idea of a ski area on Mohawk Mountain in Cornwall after his discharge from the military at the end of World War II. Convincing then-Governor McConaughy and the State Park and Forest Commission that such a facility on state land would be an asset for the general public, Walt proceeded with development. Then, faced with the vagaries of winter in southern New England, Walt invented snowmaking, a technology later adopted by all major ski areas in the Northeast.

Although Walt later developed Mount Snow in Vermont and served as an international-ly-recognized expert and consultant,

his heart remained with Mohawk Mountain, which he treated as his special love. Environmental quality and service to the public were his hallmarks as lessee at Mohawk Mountain. Indeed many of the handsome evergreens gracing the vicinity of the Base Lodge were raised by Walt on his home property in East Haven, then transplanted to the ski area.

Those of us who were fortunate enough to know him recognized his good heart, his love of nature, and his intense and unselfish desire to promote Connecticut's tourism industry. Although his fatal illness eventually wore him down, Walt and his noble spirit persevered till the end. In short, he made his mark and won the respect of those who knew him. Who amongst us can hope to do any better?

Rest in peace, good friend.

by Joseph Hickey

## Trailside Botanizer

by  
Gale W. Carter  
Illustration by  
Pam Carter

Wintergreen, or checkerberry (*Gaultheria procumbens*), with its waxy green leaves and creeping stem, is well protected throughout the winter season under the insulating blanket of snow. Because it spreads by slender underground runners, it often forms mats of vegetation on the forest floor.

The leaves of this wintergreen are usually crowded toward the tip of the stem, which may grow up to a height of six inches.

The blossoming time for wintergreen is from April to May. The tiny, white, five-petalled flowers dangle downward, bell-like, under the protection of the leaves. Inside each flower can be seen 10 stamens and one pistil.

©1988, Gale W. Carter.



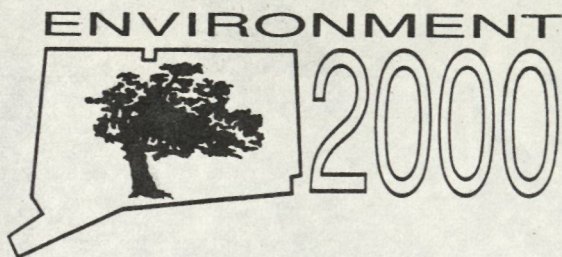
The fruit are bright red and berry-like, forming in the fall, persisting and maturing during the winter months. Wintergreen is found in all seasons as a ground cover, growing under oaks or evergreens or in clearings.

Dr. Hugues Gaultier, a Canadian physician and botanist of the middle 18th century, is the source of the generic name -- *Gaultheria* -- of wintergreen. Its species name -- *procumbens* -- comes from the Latin, describing the creeping nature of its growth.

Wintergreen has a number of uses as food and in medicine. Both the leaves and berries have a pleasant taste. The young leaves are appetizing as a trail nibble. They can also be added to salads. Its spicy-flavored berries have a similar use.

A few wintergreen leaves steeped in boiling water can be used to make a tea. By increasing the number of leaves to be steeped, a stronger solution can be made which has been used for the treatment of headaches, mouth and throat problems, and as a wash for skin ailments. The healing property in wintergreen is in the oil of wintergreen, which is largely composed of methyl salicylate, a chemical similar to that found in aspirin.

During the winter months, the berries of wintergreen are relished by ruffed grouse and the white-tailed deer.



## Environment/2000 Conference

The Second Annual *Environment/2000* Conference will be held on January 26, 1988, at the Sheraton Hotel in Norwich. At the Conference, the DEP will present to the public the adopted *Environment/2000: Connecticut's Environmental Plan*. The newly-formed Commissioner's Advisory Board

will be introduced, the role of the Council on Environmental Quality in the continuing *Environment/2000* process will be explained, and outreach strategies will be discussed.

When Governor William O'Neill adopted the the Plan on September 3, 1987, he called upon all branches

of government, business and industry, conservation organizations, educators, and individual citizens to actively participate. The DEP invites and encourages all these parties to come together at this conference and work in defining their roles and move toward enacting a number of the strategies identified in the Plan.

Registration will run from December 15 to January 20, and the number of participants will be limited to 250 people. The conference fee is \$20.00. Registration material may be obtained by contacting Tessa Gutowski, 566-2588, Connecticut DEP, State Office Building, 165 Capitol Avenue, Hartford, CT 06106. ■

## The Night Sky

by  
Francine Jackson

Even though it may appear very neat and orderly, our celestial neighborhood is really rather dirty. There are many piles of dust and gas littering the nighttime sky. These areas, call nebulae, are often trillions of miles in diameter, yet their distances from us are so great they generally appear as small, smudgy, cloudy areas ("nebula" is Latin for cloud).

There appear to be two major reasons for these nebulae: either they are areas where new stars are being formed, or they are material thrown off a dying star. And now, in the cold January sky, we can see an example of each.

Looking south, the familiar pattern of Orion the Hunter dominates this part of the sky. The three stars in a row, and a bright star both above and below this line of stars, all are visible even from the brightest city yard. The three stars are Orion's belt. As he was a great hunter, if you look closely between left and center stars, you may see another, dimmer triad of stars appearing to hang off this belt -- his sword. With binoculars, you may

find that the center star of his sword is really a fuzz blob, a nebula. This, called the Great Orion Nebula, is a stellar nursery, where new stars are being formed. Your binoculars may pick up four shiny dots arranged in a crooked rectangle. This "trapezium" of stars was made from the material within this nebula.

Returning to Orion's belt stars, let's draw an imaginary line through them, and continue that line to Aldebaran, the flaming red eye of Taurus the Bull. You may notice that Aldebaran is at the upper left-hand corner of a perfect "V." This is Taurus' head. As he was a really big bull, you can probably guess he had really big horns. They extend from each tip of the "V" up to the next visible stars. Just



off to the right of the horn coming up from Aldebaran is another nebula, commonly called M1, or the Crab. This nebula is the remains of a supernova, a star that exploded thousands of years ago. Although this Crab Nebula is considered by some people with good vision to be a naked-eye object, you will probably need at least your binoculars or a small telescope to see the lacy, filamentous pattern that someone with a fantastic imagination mistook for a crab. ■

## Endnote

"I -- and others -- have been saying for years that destruction of the environment is based on contempt for everything outside the human skin; failure to see that as a field flowers, the planet peoples; and ignorance of the fact that the oceans, the air, and even the solar system are as much our vital organs as heart and stomach. We are not in nature -- we *are* nature."

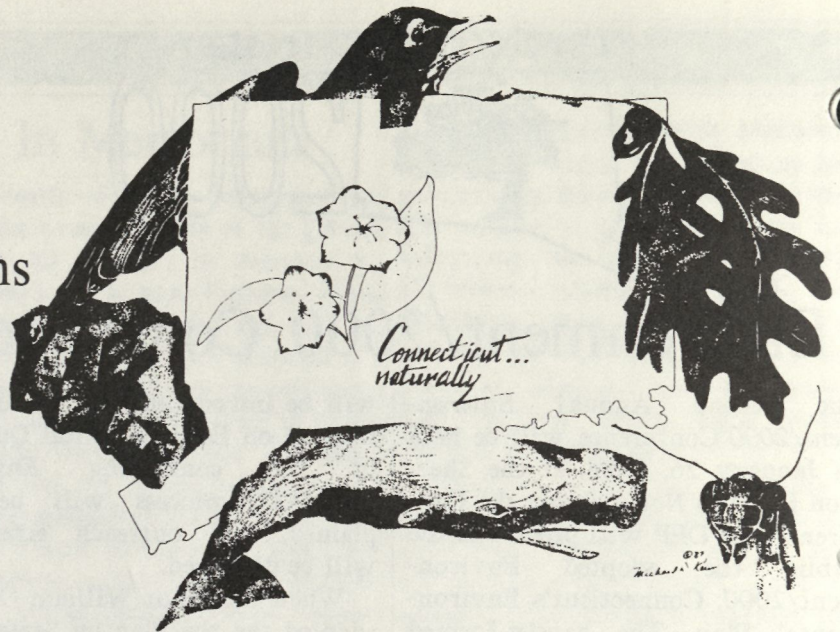
Alan Watts

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